REMARKS

Applicants' representative, Wan Yee Cheung, thanks Examiner Wilser for a phone conversation on December 14, 2007, regarding the objection to the specification in paragraph [0018] of the published application.

This response is intended as a full and complete response to the non-final Office Action mailed October 12, 2007. In the Office Action, the Examiner notes that claims 1-7 are pending and rejected. By this response, Applicants have traversed these rejections.

In view of the following discussion, Applicants submit that none of the claims now pending in the application are anticipated or obvious under the provisions of 35 U.S.C. §§102 and 103. Thus, Applicants believe that all of the claims are in allowable form.

It is to be understood that Applicants do not acquiesce to the Examiner's characterizations of the art of record or to Applicants' subject matter recited in the pending claims. Further, Applicants are not acquiescing to the Examiner's statements as to the applicability of the prior art of record to the pending claims by filing the instant response.

OBJECTIONS

In the Specification

The disclosure is objected to because it contains an embedded hyperlink and/or other form of browser-executable code.

The specification has been amended in paragraph [0018] of the published application to remove the citation denoted by the hyperlink.

Paragraph [0022] has also been amended to remove an extraneous reference.

Therefore, all objections to the specification should be withdrawn.

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REJECTIONS

35 U.S.C. §102

Claims 1 and 2 are rejected under 35 U.S.C. §102(e) as being anticipated by Yeo et al. (US 7,227,589, hereinafter "Yeo"). The rejection is traversed.

In general, the Applicants' invention pertains to a method of implementing a low cost video server by distributing video server processes across commercial off-the-shelf hardware and software in such a manner as to preserve video bit-rate with high precision. The Applicants disclose, in one embodiment, a method of compensating drift in system clock timing to generate streams of video at a precise bit-rate. Specifically, Applicants' claim 1 recites:

"A method, comprising:

associating each of a plurality of processing elements with at least one respective video server process;

assigning priority to said processing elements according to a hierarchy of video server processes, each of said video server processes having a relative priority level with respect to other video server processes;

adjusting said hierarchy of video server processes according to at least one of monitored timing parameters, changes in system loading conditions, changes in operating conditions and operating system scheduler requirements."

Anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the claim. As will be shown below, Yeo fails to disclose each and every element of the claimed invention, as arranged in claim 1.

Yeo teaches a method for decoding a compressed video stream in which a first processor assigns to a number of processors sharing a memory at least one independent element per processor for decoding the independent elements in parallel (e.g., Abstract).

Yeo's col. 2, lines 22-28 was cited in the Office Action as allegedly teaching the features of "assigning priority to said processing elements according to a hierarchy of video server processes, each of said video server processes

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having a relative priority level with respect to other video server processes." Applicants respectfully disagree.

Specifically, the above-cited portion teaches a known <u>hierarchy of layers</u> in an MPEG bitstream -- namely, that of sequence, group of pictures (GOP), picture slice, macroblock and block:

> "One embodiment of the hierarchy of layers in an MPEG bitstream is arranged in the following order, as illustrated in FIG. 1: Sequence, Group of Pictures (GOP), Picture Slice, Macroblock, and Block. The different parts of the stream are marked with unique, byte-aligned codes called startcodes. These startcodes are used both to identify certain parts of the stream and to allow random access into the video stream." (col. 2, lines 22-28)

However, this layer hierarchy represents the <u>data structure</u> within an MPEG elementary stream. It is <u>not</u> a hierarchy of <u>video server processes</u> as provided in Applicants' claimed invention.

Even if one were to assume that this layer hierarchy in the MPEG stream is somehow analogous to a hierarchy of video server processes, there is still no teaching in col. 2, lines 22-28 (see above) regarding any priority being assigned to the processing elements (e.g., different processors) according to the MPEG layer hierarchy.

The Office Action also cited Yeo's col. 3, line 65 - col. 4, line 9 as teaching: "adjusting said hierarchy of video server processes according to at least one of monitored timing parameters, changes in system loading conditions, changes in operating conditions and operating system scheduler requirements." Again, Applicants disagree.

All that this cited portion of Yeo teaches is that the picture slices assigned to be decoded by each processor are written in a shared memory as local variables for the respective processors in order to avoid possible conflicts between processors in accessing the queue to identify slices for decoding.

There is nothing in this cited portion regarding adjusting the hierarchy of video server processes according to at least one or monitored parameters, conditions, or changes in operating conditions or scheduler requirements.

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However, Yeo does teach in col. 3, lines 51-64, that the first processor assigns picture slices for decoding by different processors in a manner to spread the workload evenly among the processors. But the distribution of the picture slices for decoding by different processors is still different from adjusting the hierarchy of video server processes because there is only one process being performed by the various processors – that of decoding picture slices. As such, there is no hierarchy of processes involved, and thus, no adjusting of the hierarchy of video server processes, even if Yeo teaches that picture slices for decoding are assigned to the processors based on workload conditions.

Thus, Yeo fails to teach or suggest at least the following features provided in claim 1:

> "assigning priority to said processing elements according to a hierarchy of video server processes, each of said video server processes having a relative priority level with respect to other video server processes;
>
> adjusting said hierarchy of video server processes according to at least one of monitored timing parameters, changes in system loading conditions, changes in operating conditions and operating system scheduler requirements."

Since Yeo does not teach or suggest each and every one of the limitations of Applicants' claim 1, Applicants submit that claim 1 is not anticipated by Yeo and is patentable under 35 U.S.C. §102.

Since claim 2 depends directly from independent claim 1 while adding additional elements, claim 2 is also not anticipated by Yeo, and is patentable under 35 U.S.C. §102 for at least the same reasons discussed above.

Therefore, the rejection should be withdrawn.

35 U.S.C. §103

A.   Claims 3-5

Claims 3-5 are rejected under 35 U.S.C. §103(a) as being unpatentable over Yeo in view of Manikundalam et al. (U.S. 6,058,414, hereinafter "Manikundalam"). The rejection is traversed.

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Claims 3-5 depend from independent claim 1 and recite additional limitations thereof. Since there is no argument put forth in the Office Action that Manikundalam teaches the previously discussed features in claim 1 that are missing from Yeo, the combined teaching of Yeo and Manikundalam does not anticipate or render obvious Applicants' claim 1.

As such, Applicants submit that dependent claims 3-5 are non-obvious and are patentable under 35 U.S.C. §103.

Furthermore, claims 4-5 are patentable over Yeo and Manikundalam for the following reasons.

The Examiner cited col. 2, lines 48-62 of Manikundalam for teaching the features in claim 4 and col. 2, lines 22-28 for teaching the features in claim 5. Applicants disagree.

Manikundalam teaches generally a system for dynamically binding an executable process to a resource in a computer system having two or more processors (col. 2, lines 48-62). There is no specific teaching of bining individual processing elements to respective processes by modifying the kernel within an operating system, as provided in claim 4.

In col. 2, lines 22-28, Manikundalam teaches "a method and system to enable dynamic scheduling of applications and processes using resources are shared by one or more, but less than all of the processors in an asymmetric multiple processor complex." There is no specific teaching of "wherein a first processing element is associated with at least one administrative process and a second processing element is associated with software for driving video output data at a controlled rate," as recited in claim 5.

For these additional reasons, claims 4-5 are not obvious over the combined teaching of Yeo and Manikundalam.

Therefore, the rejection should be withdrawn.

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B. Claims 6-7

Claims 6-7 are rejected under 35 U.S.C. §103(a) as being unpatentable over Yeo in view of Kikuchi et al. (U.S. 6,212,571, hereinafter "Kikuchi"). The rejection is traversed.

Claims 6-7 depend from independent claim 1 and recite additional limitations thereof. For at least the reasons discussed above, Yeo fails to teach or suggest Applicants' invention as recited in independent claim 1.

Since there is no argument put forth in the Office Action that Kikuchi teaches the previously discussed features in claim 1 that are missing from Yeo, the combined teaching of Yeo and Kikuchi also does not anticipate or render obvious Applicants' claim 1.

As such, Applicants submit that dependent claims 6-7 are non-obvious and are patentable under 35 U.S.C. §103.

Therefore, the rejection should be withdrawn.

THE SECONDARY REFERENCES

The secondary references made of record are noted. However, it is believed that the secondary references are no more pertinent to Applicants' disclosure than the primary references cited in the Office Action. Therefore, Applicants believe that a detailed discussion of the secondary references is not necessary for a full and complete response to this Office Action.

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CONCLUSION

Thus, Applicants submit that none of the claims, presently in the application, are anticipated or obvious under the provisions of 35 U.S.C. §§102 and 103. Accordingly, both reconsideration of this application and its swift passage to issue are earnestly solicited.

If, however, the Examiner believes that there are any unresolved issues requiring adverse final action in any of the claims now pending in the application, it is requested that the Examiner telephone <u>Eamon J. Wall</u> at (732) 530-9404, so that appropriate arrangements can be made for resolving such issues as expeditiously as possible.

Respectfully submitted,

Dated: 12/26/07

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